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HANDBOOK OF UNITED STATES GRADES FOR GRAIN SORGHUMS

(Tabulated and abridged)

Recommended by

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UNITED STATES GRADES FOR GRAIN SORGHUMS.¹

For the purpose of the United States grades for grain sorghums:

Grain sorghums.—Grain sorghums shall be any grain which consists of kafir, milo, durra, feterita, darso, freed sorgo, kaoliang, schrock kafir, and shallu, and any hybrids between these classes, and not more than 35 per cent of nongrain sorghums, other cereal grains, and “foreign material and cracked kernels,” as defined in these standards, either singly or in any combination.

Basis of determinations.—Each determination of general appearance, temperature, odor, smut, moisture, test weight per bushel, “foreign material and cracked kernels,” “sand, dirt, and finely broken kernels,” and insects injurious to stored grain shall be upon the basis of the lot of grain as a whole, and all other determinations shall be on the basis of the grain when free from foreign material and cracked kernels.

¹ These grades embody the recommendations of the U. S. Department of Agriculture, but are not fixed and established at this time under the United States grain standards act.

Percentages.—Percentages, except in the case of moisture, shall be percentages ascertained by weight.

Percentage of moisture.—Percentage of moisture in grain sorghums shall be that ascertained by the moisture tester and the method of use thereof for kafir, as described in Circular 72, and supplement thereto, issued by the United States Department of Agriculture, Bureau of Plant Industry, or ascertained by any device and method giving equivalent results.

Test weight per bushel.—The test weight per bushel shall be the test weight per Winchester bushel, as determined by the testing apparatus and the method of use thereof as described in Bulletin 472, dated October 30, 1916, issued by the United States Department of Agriculture, or as determined by any device and method giving equivalent results.

Other grains.—Other grains shall include wheat, nongrain sorghums, corn, oats, barley, rye, emmer, spelt, einkorn, rice, cultivated buckwheat, and flaxseed only.

Nongrain sorghums.—Nongrain sorghums shall include the grain of sorgo (commonly called "cane seed"), broomcorn, Sudan grass, and Johnson grass, and hybrids between any com-

bination of the groups of the nongrain sorghums.

Foreign material and cracked kernels.—Foreign material and cracked kernels shall be grains and pieces of grains of grain sorghums, and all matter other than grain sorghums which will pass through a No. 8 sieve, and all foreign material, except other grains, remaining on such sieve after screening.

Sand, dirt, and finely broken kernels.—Sand, dirt, and finely broken kernels shall be finely broken kernels, sand, and all other material which will pass through a No. $2\frac{1}{2}$ sieve and all inert matter remaining on either the No. $2\frac{1}{2}$ or No. 8 sieve after screening.

(a) **No. $2\frac{1}{2}$ sieve.**—A metal sieve perforated with round holes $2\frac{1}{2}$ sixty-fourths of an inch in diameter.

(b) **No. 8 sieve.**—A metal sieve perforated with triangular perforations 8 sixty-fourths of an inch long on each side of perforation.

Damaged kernels.—Damaged kernels shall be all grains and pieces of grains of grain sorghums which are neat-damaged, sprouted, frosted, badly ground-damaged, moldy, or otherwise distinctly damaged.

Heat-damaged kernels.—Heat-damaged kernels shall be grains and pieces

of grains of grain sorghums or other grains which have been distinctly discolored or damaged by external heat or as a result of heating caused by fermentation.

CLASSES AND SUBCLASSES OF GRAIN SORGHUMS.

Grain sorghums shall be divided into classes and subclasses as follows:

Class I. Kafir.—This class shall include all varieties of kafir and hegari, except schrock kafir, and may include not more than 10 per cent of other grain sorghums. This class shall be divided into two subclasses, as follows:

White kafir.—This subclass shall include all kafir and hegari, except schrock kafir, consisting of 90 per cent or more of white kernels, including other classes and nongrain sorghums. Red spots or other natural coloring upon kernels otherwise white shall not affect their classification as white kafir.

Kafir.—This subclass shall include all kafir and hegari, except schrock kafir, not coming within the classification for white kafir.

Class II. Milo.—This class shall include all varieties of milo, and may include not more than 10 per cent of other grain sorghums. This class shall

be divided into two subclasses, as follows:

Yellow milo.—This subclass shall include all milo consisting of 90 per cent or more of yellow kernels, including other classes and nongrain sorghums.

Milo.—This subclass shall include all milo not coming within the classification for yellow milo.

Class III. Durra.—This class shall include all varieties of durra, and may include not more than 10 per cent of other grain sorghums. This class shall be divided into two subclasses, as follows:

White durra.—This subclass shall include all durra consisting of 90 per cent or more of white kernels, including other classes and nongrain sorghums. Red spots or natural coloring upon kernels otherwise white shall not affect their classification as white durra.

Durra.—This subclass shall include all durra not coming within the classification for white durra.

Class IV. Feterita.—This class shall include all varieties of white feterita, and may include not more than 10 per cent of other grain sorghums. Red spots or natural coloring upon kernels otherwise white shall not affect their classification as white feterita.

Class V. Darso.—This class shall include all varieties of darso, and may include not more than 10 per cent of other grain sorghums.

Class VI. Freed Sorgo.—This class shall include all varieties of freed sorgo, and may include not more than 10 per cent of other grain sorghums.

Class VII. Brown Kaoliang.—This class shall include all varieties of brown kaoliang, and may include not more than 10 per cent of other grain sorghums.

Class VIII. Schrock Kafir.—This class shall include all varieties of schrock kafir, and may include not more than 10 per cent of other grain sorghums.

Class IX. Shallu.—This class shall include all varieties of shallu, and may include not more than 10 per cent of other grain sorghums.

NOTE.—Any grain sorghum or grain-sorghum hybrid not mentioned in classes I to IX, inclusive, shall be included in the class which it most nearly resembles.

Mixed grain sorghums.—Mixed grain sorghums shall be any mixture of grain sorghums not provided for in the classes I to IX, inclusive.

Mixed grain sorghums shall be graded according to each of the grade require-

ments common to the class of the grain sorghums which predominates over each other class in the mixture. The grade designation of "Mixed grain sorghums" shall include, successively, the number of the grade or the words "Sample grade," the word "Mixed," and, in the order of its predominance, the name and approximate percentage of each of at least two classes.

Weevily grain sorghums.—Weevily grain sorghums shall be grain sorghums which are infested with live weevils or other insects injurious to stored grain.

Weevily grain sorghums shall be graded and designated according to the grade requirements of the grade applicable to such grain sorghums if they were not weevily, and there shall be added to and made a part of the grade designation the word "weevily."

Smutty grain sorghums.—Smutty grain sorghums shall be all grain sorghums which have an unmistakable odor of smut or which contain smut masses.

Smutty grain sorghums shall be graded and designated according to the grade requirements of the grade applicable to such grain sorghums if they were not smutty, and there shall be added to and made a part of the grade designation the word "smutty."

United States grades for grain sorghums tabulated and abridged.

Grade No.	Condition and general appearance.	Mini- mum test weight per bushel.	Maximum limits of—						
			Mois- ture con- tent.	Damaged kernels.		Other grains.		Foreign ma- terial and cracked kernels.	
				Total	Heat damaged (grain sorghums or other grains).	Total	Non- grain sor- ghums.	Total	Sand, dirt, and finely broken kernels.
		Pounds.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1	Shall be cool and of natural odor, and good color.....	55	14	2	0.2	3	1	3	0.5
2	Shall be cool and of natural odor, and may be slightly discolored.....	53	15	5	5	5	3	6	1.0
3	Shall be cool and of natural odor, and may be discolored.....	51	16	10	1.0	7	5	10	2.0
4	Shall be cool and may be musty, sour, or badly discolored.....	49	18	15	3.0	10	10	15	3.0

SAMPLE GRADE: Shall be white kafir, kafir, yellow milo, milo, white durra, durra, feterita, darso, freed sorgo, brown kaoliang, schrock kafir, or shallu, respectively, which does not come within the requirements of any of the grades from No. 1 to No. 4, inclusive, or which has any commercially objectionable foreign odor, or is heating, hot, or otherwise of distinctly low quality.

1 Grade No. 1 for white kafir and white durra shall consist of 95 per cent or more of white kernels, including other classes and nongrain sorghums. Grade No. 1 for yellow milo shall consist of 95 per cent or more of yellow kernels, including other classes and nongrain sorghums.

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